A1 Cncld.

Fig. 7 is a diagram depicting the amplification, and detection of the amplification products, in accordance with a preferred embodiment of the invention.--

Below the seven paragraphs added above and above the first full paragraph on page 3, please add --DETAILED DESCRIPTION OF THE INVENTION--.

On page 26, line 1, please replace "Claims" with

--What is claimed is:--

In the Claims:

Please cancel claims 1-35 without prejudice or disclaimer of the subject matter claimed therein.

Please add new claims 36-68 as follows:

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36. (new) An apparatus for detecting nucleic acids in a sample, comprising:

(a) a binding space for purifying the nucleic acids by immobilizing the nucleic acids and separating impurities,

(b) an amplification space for amplifying the nucleic acids comprising at least part of the binding space, and

(c) a detection space for detecting the nucleic acids.

37. (new) The apparatus of claim 36 further comprising reagents for purifying, amplifying and detecting the nucleic acid.

38. (new) The apparatus of claim 36, wherein the detection space comprises at least a part of at least one of the amplification space and the binding space.

39. (new) The apparatus of claim 36, wherein at least one of the binding space and the amplification space comprises a capillary space.

40. (new) The apparatus of claim 39 wherein the capillary space is a capillary reaction vessel surrounded by a heatable metal layer.

41. (new) The apparatus of claim 39 wherein the capillary space is glass or polystyrene.

42. (new) A method for detecting nucleic acids in a sample comprising:

(a) contacting the sample with a binding space to immobilize the nucleic acids,

A2 Cm't

(b) separating impurities from the immobilized nucleic acids,

(c) eluting the immobilized nucleic acids, to produce purified nucleic acids,

(d) amplifying the purified nucleic acids in an amplification space comprising at least part of the binding space to produce amplification products, and

(e) detecting the amplification products in a detection space.

43. (new) The method of claim 42, wherein the detection space comprises at least a part of at least one of the amplification space and the binding space.

44. (new) The method of claim 42, wherein at least one of the binding space and the amplification space comprises a capillary space.

45. (new) The method of claim 42 wherein the immobilized nucleic acids are adsorbed to a glass surface.

46.(new) The method of claim 42 wherein the purified nucleic acids are eluted from the binding space with a solution that comprises all the reagents required to amplify the purified nucleic acids.

47. (new) The method of claim 42, wherein the temperature of the amplification space can be regulated by a thermostat.

48. (new) The method of claim 47, wherein the amplification space is surrounded by a heatable metal layer.

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49. (new) The method of claim 42, wherein the sample comprises cells.

50. (new) The method of claim 49 wherein the sample is lysed prior to step (a)

51. (new) The method of claim 49, wherein the cells are bound to a polystyrene surface.

52. (new) The method of claim 42, wherein steps (b)-(e) occur in a single reaction space.

53. (new) The method of claim 42, wherein all steps occur in a closed device.

54. (new) A method for lysing a matrix that comprises nucleic acids, the method comprising moving through a capillary space a lysis mixture comprising the matrix and a lysis reagent, and disupting the matrix to release the nucleic acids.

55. (new) The method of claim 54, wherein the matrix that comprises nucleic acids comprises at least one of cells and cell fractions.

56. (new) The method of claim 54, wherein the lysis reagent comprises at least one of a lytic enzyme and a chaotropic substance.

57. (new) The method of claim 54, wherein the capillary space is at least one of a glass capillary and polystyrene capillary.

58. (new) The method of claim 54, wherein the capillary space is a capillary coated with boron silicate.

59. (new) The method of claim 54, wherein the matrix that comprises nucleic acids is passed several times through the capillary space.

60. (new) The method of claim 54, wherein the volume ratio of the lysis mixture to the capillary space is larger than 10:1.

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61. (new) A method for isolating nucleic acids from a microorganism comprising contacting a sample containing one or more microorganisms with a polystyrene surface under conditions in which the microorganisms bind to the polystyrene surface, separating unbound sample components, and separating the nucleic acids from the microorganisms.

62. (new) The method of claim 61, wherein the conditions in which the microorganisms bind to the polystyrene surface include the addition of a salt to the sample.

63. (new) The method of claim 61, wherein the polystyrene surface is a polystyrene capillary.

64. (new) The method of claim 61, further comprising passing the sample several times over the polystyrene surface.

65. (new) The method of claim 61 wherein the microorganism is Chlamydia.